Aboveground Storage Tank Enhanced Vapor Recovery Workshop

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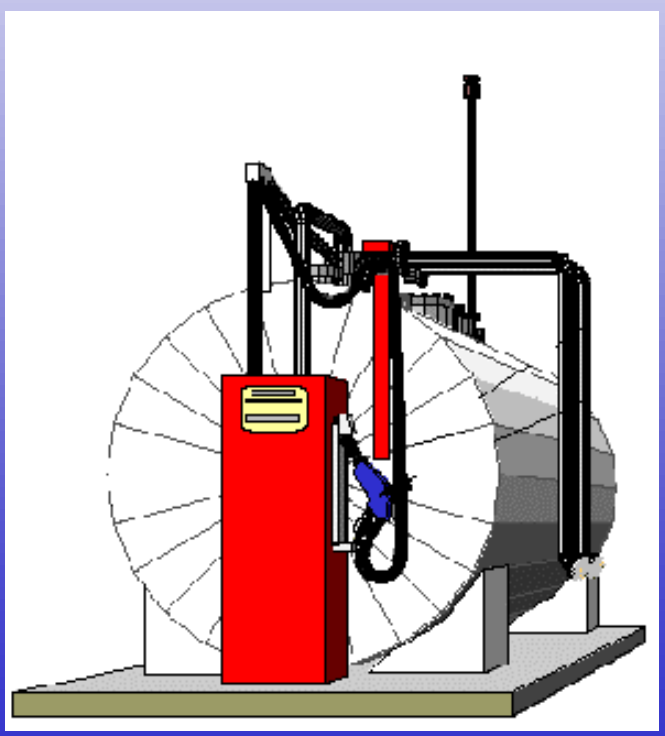
California Air Resources Board



Workshop Agenda

- Welcome and Sign-In
- Workgroup Meeting Highlights
- Monitoring Activities
- Efficiency Testing
- Component Evaluation
- Emission Inventory
- Upcoming Activities
- Rulemaking Schedule
- Open Discussion

Workgroup Meeting Highlights

- Workgroup meetings on April 17th and July 23rd - presentation and minutes available on vapor recovery website.
  - AST Definition
  - AST Inventory
  - Rupture Disk Evaluation - Alternative Emergency Venting Device

Workgroup Meeting Highlights - AST Definition

A system that uses a gasoline storage tank that is intended for fixed installation, without backfill, is located above or below grade and requires emergency relief venting.

Monitoring Activities

- Monitored a 1,000 gallon, 4,000 gallon, and two 6,000 gallon balance, single dispenser, insulated AST systems.
- Monitoring a 1,000 gallon balance, single dispenser, single steel wall AST system with Phase I vapor recovery only.

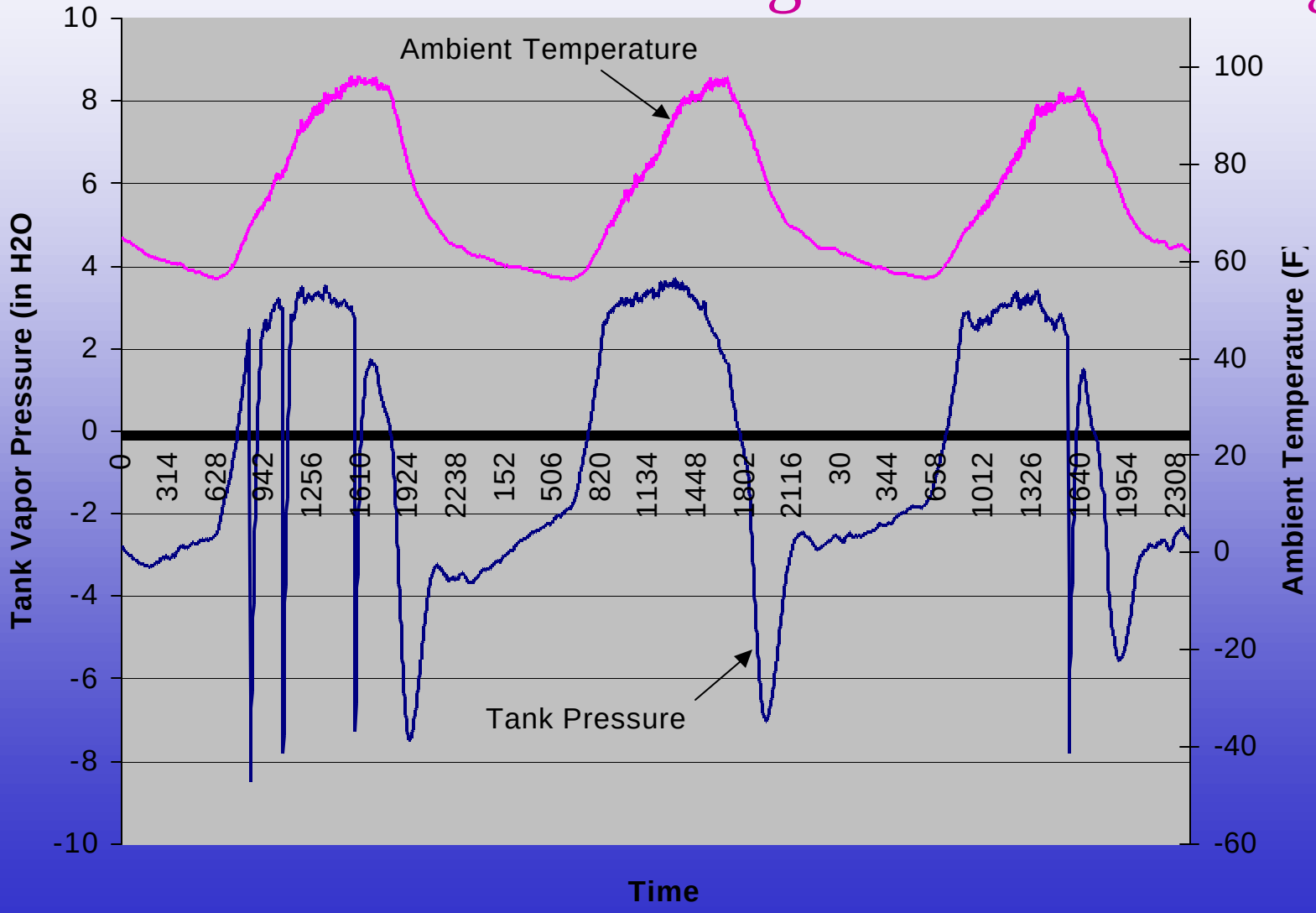
Monitoring Activities (continued)

- High throughput of ORVR vehicles on one of the 6,000 gallon ASTs
- Data from the AST monitoring activities shows correlation between ambient temperature and AST vapor pressure, i.e., increased positive AST pressure with increased ambient temperature.

Monitoring Activities (continued)

1,000 Gallon Non-Insulated AST

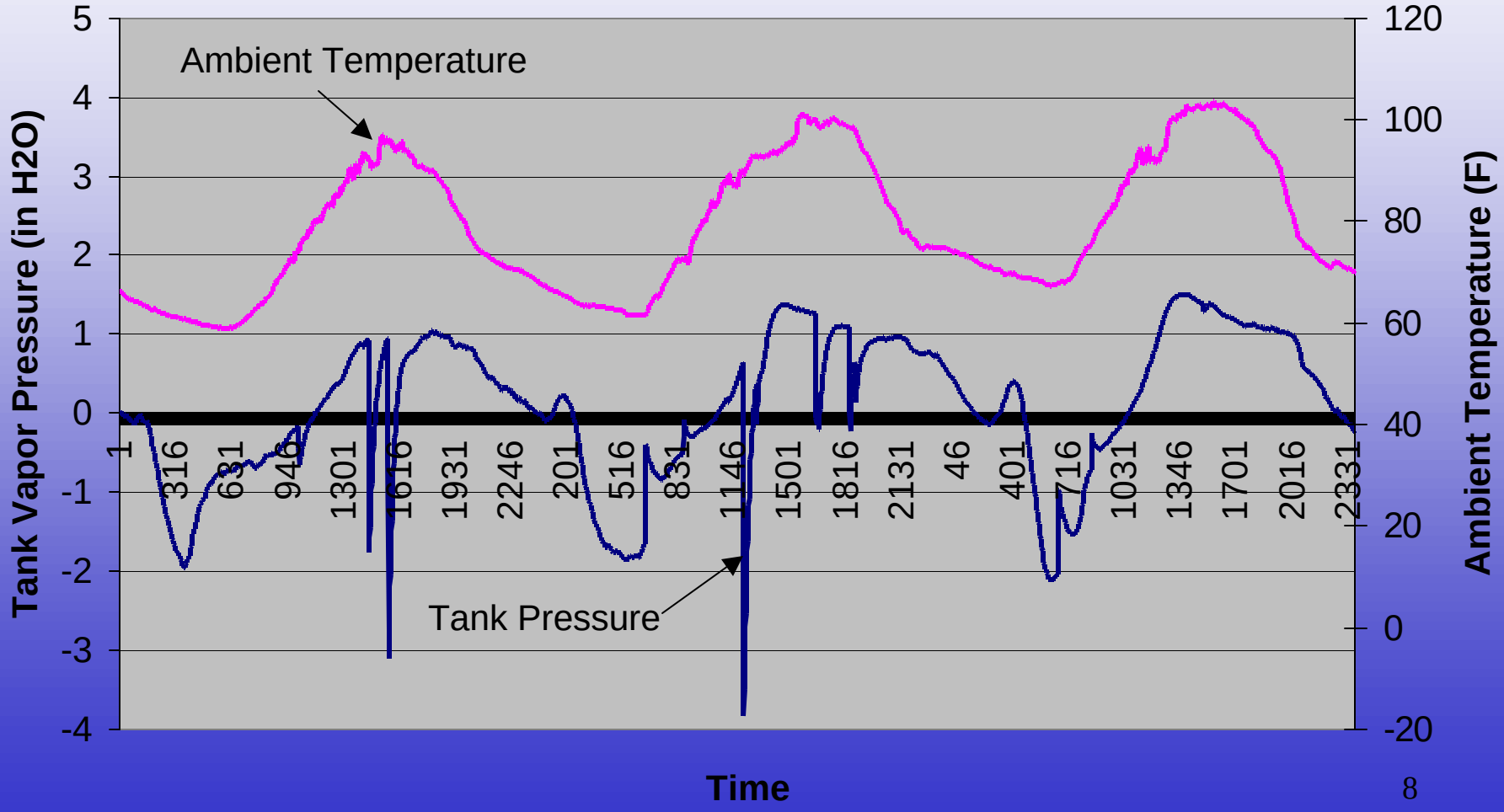
Tank Pressures Exceeding P/V Valve Setting



Monitoring Activities (continued)

1,000 Gallon Insulated AST

Tank Pressures Below P/V Valve Setting



Efficiency Testing

- Phase I and Phase II efficiency testing conducted on a 1,000 gallon balance AST system.
- Phase II efficiency test conducted on a 12,000 gallon balance AST system.
- Test Results expected by next month
- Efficiency testing to be conducted on a processor type AST system and on a single steel wall AST system.

Component Evaluation

- Rupture disk emergency vent
  - Minimize fugitive emissions
  - Allowed by 2000 Edition of UFC
  - Workgroup suggestion to establish subcommittee to evaluate viability of rupture disks as alternative emergency venting devices.
- Dedicated drop tubes for tank gauging
  - Minimize fugitive emissions

Emissions Inventory - Number of ASTs

- Survey sent to AST manufacturers
- Preliminary results of survey

Size in gallons	Non-AG	AG
250-2,000	3008	1879
2001-6,000	198	273
6,001 and greater	184	254
total	3390	2406

- Major AST Manufacturers will be contacted to complete inventory estimate.

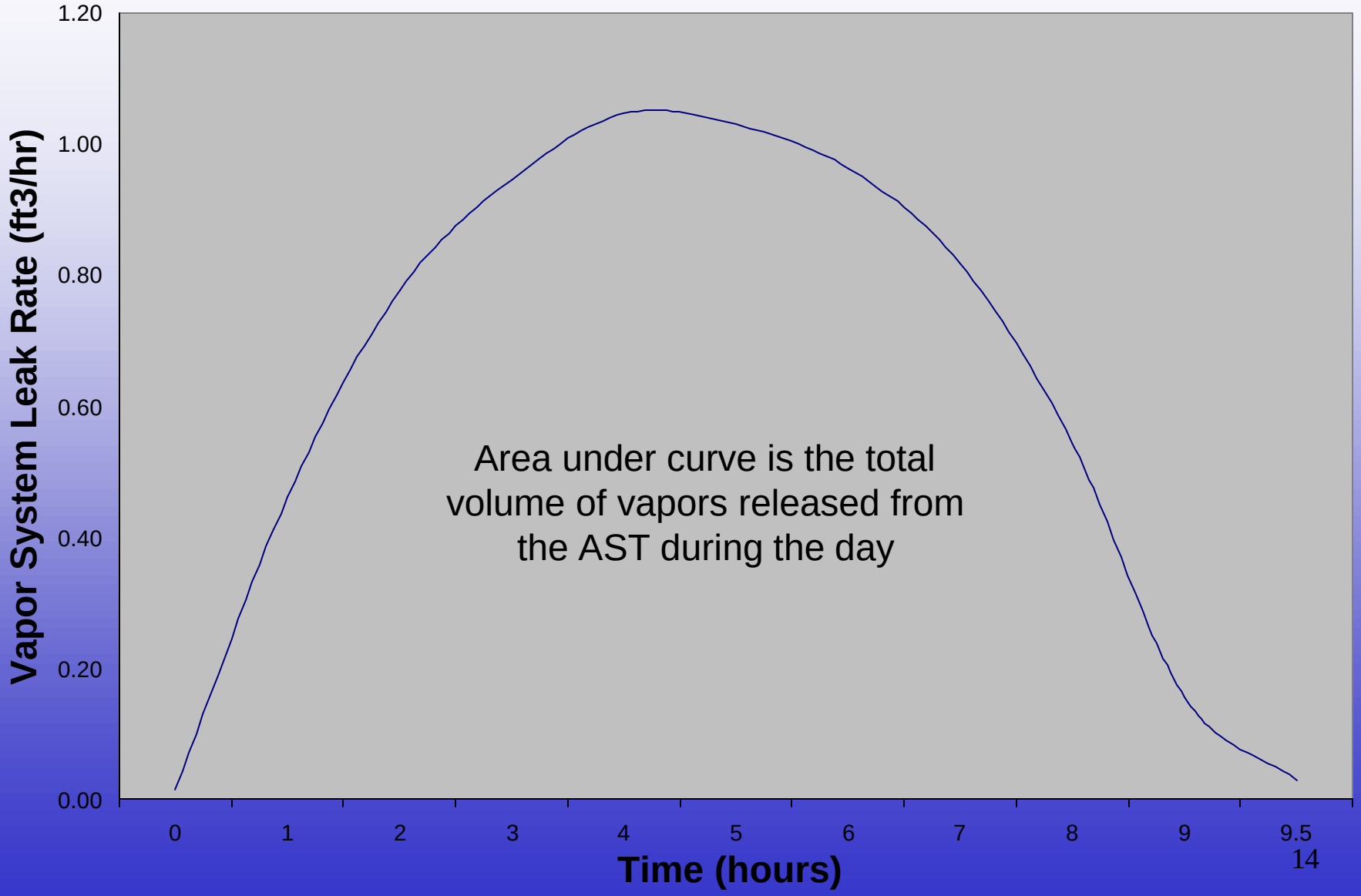
Emissions Inventory

- Phase I and Phase II baseline emissions estimate based on 90% vapor recovery efficiency is 0.4 tons/day.
- An increase to 95% efficiency will reduce emissions by 0.2 tons/day.
- Fugitive emissions are not included in the Phase I and Phase II emissions estimate. Fugitive emissions are a result of positive vapor pressures in the AST i.e., pressure-related fugitive emissions.

Emissions Inventory -
Fugitive Emissions Estimate

- Use vapor system pressure data and system leak data to establish a correlation between system leak flow over time.
- Determine fugitive emissions by calculating the area under the leak flow curve.

Emissions Inventory - Example of Fugitive Emissions Estimate



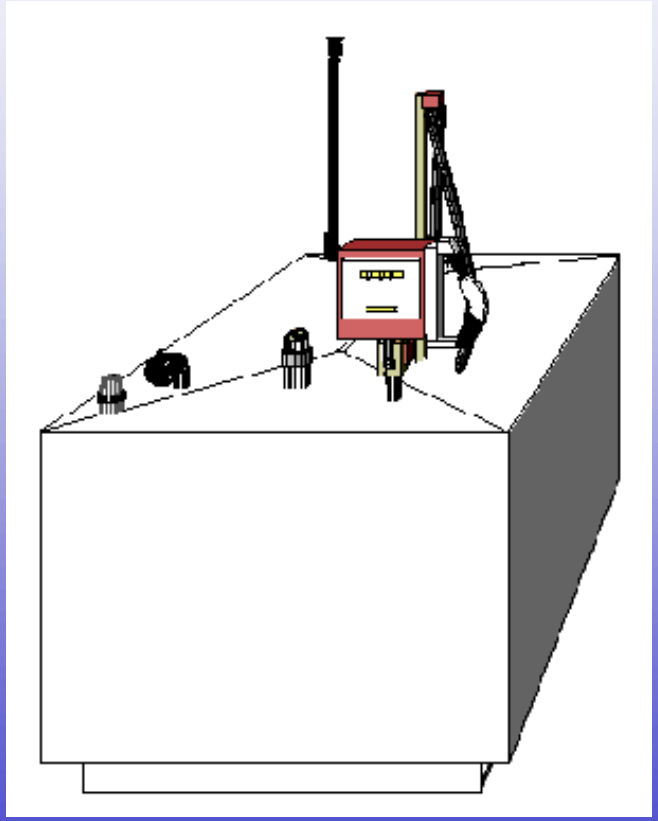
Upcoming Activities

- Conduct efficiency testing on a processor type AST system and on a single steel wall AST system.
- Tentative Workgroup meeting in late October, 2002

Rulemaking Schedule

- February, 2003: Notice of AST EVR Rulemaking
- March-April, 2003: 45-Day Public Comment Period
- April, 2003: ARB Hearing

Contact



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